

#907 - "EL TORO"

INSTALLATION AND GENERAL GAME OPERATION INSTRUCTIONS

INSTALLATION

On all games there are certain items that should be checked after shipment. These are visual inspections which may avoid time consuming service work later. Minor troubles caused by abusive handling in shipment are unavoidable. Cable plugs and sockets may be loosened, switches (especially tilt switches) may go out of adjustment. Plumb bob tilt switch should always be adjusted after game is set on location and leg levelers are adjusted.

Visual inspections before plugging in line cord: -

1. Check that all cable plugs are firmly seated in proper sockets.
2. Check that cables are clear of all moving parts and relays.
3. Check for any wires that may have become disconnected.
4. Check switches for loose solder or other foreign material that may have come loose in shipment and could cause shorting of contacts.
5. Check wires on relay coils for proper soldering, especially the bare (common) wire connecting a row of relay coils. Cold solder connections may not show up in factory inspection, but vibration in shipment may break contact.
6. Check that fuses are firmly seated and making good contact.
7. Check (manually) the stepping and resetting of all step-up units.
8. Check transformer for any foreign material shorting across wiring lugs.
9. Check wiring of transformer to correspond to location voltage (Transformer wiring card in front cabinet.)

Before line cord is plugged in: -

Check all plugs and sockets and dress cables:

- (A) Plugs in correct sockets.
- (B) Plugs securely seated in sockets.
- (C) Dress cables away from relays.

Check adjustment of the three (normally open) tilt switches:

- (A) Panel tilt on bottom of playfield panel.
- (B) Plumb-bob tilt on left side of cabinet near front door
- (C) Ball tilt above plumb-bob tilt.

Insert one of the two balls into ball tilt assembly and adjust bracket so ball will roll over switch blade if front of cabinet is raised.

Plug in line cord:

Check adjustment of the (normally closed) kick off switch on rear cabinet mounting board that de-energizes the lock relay.

Check adjustment of the (normally closed) anti-slam switch on front door that de-energizes the coin lock out relay.

GENERAL GAME OPERATION

Place ball into playfield by out hole.

Coin Game:

If coin should be rejected, move on-off master switch at bottom right front corner of cabinet to "on" position, then coin game. Coin lock-out device rejects all coins when power (master switch) is off.

- 1A. If coin is inserted in 1st (nickel) coin chute and game is set for 1 play-5¢, it will energize the "coin relay". If game is set for 1 play-10¢, the first coin inserted will advance the "2 coin unit", then second coin inserted will energize the "coin relay" thru coin unit switch.

(See 1st coin chute adjustment plug on game adjustments sheet).

- 1B. If coin is inserted in 2nd (dime) coin chute and game is set for 1 play-10¢, it will energize the "coin relay". If game is set for 2-3-4-5-6 plays per coin, it will energize the "2nd coin chute relay" and 2nd coin chute relay will advance "credit unit" thru coin credit circuit

(See 2nd coin chute adjustment plug on game adjustments sheet).

- 1C. If coin is inserted in 3rd (quarter) coin chute and game is set for 2-3-4-5 or 6 plays per coin, it will energize the "3rd coin chute relay" and 3rd coin chute relay will advance "credit unit" thru coin credit circuit.

(See 3rd coin chute adjustment plug on game adjustment sheet.)

- 1D. When "credit unit" has been advanced from 2nd or 3rd coin chute, (as described in section 1B and 1C). The front door "credit button" switch will energize the "credit relay" and then credit relay will energize "coin relay".

- 2A. Coin relay, when energized by any of the ways described, (In sections 1A thru 1D) will stay energized thru its own hold-in switch and (normally closed) #8 score motor switch.
- 2B. Coin relay will energize the "lock relay" which stays energized thru its own hold-in switch and kick-off switch.
- 2C. Coin relay will operate trip relay bank reset motor to reset all trip relays.
- 2D. Coin relay will energize the "reset relay", operate the "score motor" and then thru (normally open) #2 score motor switch, energize the "score reset relay". The reset relay will continue to operate score motor, and both the reset and score reset relays will stay energized until all "score counter units" are reset to "zero position."
- 2E. Coin relay, thru (normally open) #3 score motor switch will advance the "total play meter", reset the "ball count unit" and reset the "credit unit" 1 step (if credit button was used to start game).
- 3A. Ball on out hole switch will energize the "out hole relay" thru (normally closed) #1 score motor switch, and it will stay energized thru its own hold-in switch and (normally closed) #8 score motor switch.
- 3B. Out hole relay will operate the "score motor" and then energize the "out hole kicker" solenoid thru (normally open) #7 score motor switch. 1st ball is kicked thru ball trough to shooter alley and game is now ready for player to begin play.

BALLS IN PLAY

- 1A. When ball is played, the ball index relay will be energized by the 10, 100 or 1000 point score relay, and stay energized thru its own hold in switch, out hole relay switch and (normally closed) #6 score motor switch.

- 1B. When 1st ball played returns to out hole, ball on out hole switch will energize the "out hole relay" thru (normally closed) #1 score motor switch. Out hole relay will stay energized thru its own hold-in switch and (normally closed) #8 score motor switch. Out hole relay will operate "score motor", advance the "ball count unit" thru (normally open) #4 score motor switch and ball index relay switch except when extra ball re. is energized, then energize the "out hole kicker" solenoid thru (normally open) #7 score motor switch. 1st ball is returned to shooter alley and game is ready for "2nd ball play". Sequence is then repeated with each ball until last ball is played. When the last ball played, returns to out hole, the "game over trip relay" will be energized thru "ball count unit disc". Game over trip relay will lite "match number" and "game over" lites, open play and scoring circuits, and game is now conditioned for use of coin (s) or credit to start "new game".
- 1C. If game is tilted before last ball is played, the "tilt relay" will energize the game over relay to end game, and match number lite will not lite.

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GAME ADJUSTMENTS

PLAYFIELD PANEL POST ADJUSTMENTS:

(2) posts under bottom left and right plastic shields can be moved to make game playing time and scoring more conservative. Spotting holes are provided for movement of posts, and "liberal" and "conservative" positions are shown on panel sketch FO- 322

BELL ADJUSTMENT PLUG:

Located on back box lite insert. This plug provides positions to ring bell for "100" point scores, "1000" point scores, or both "100 and 1000" point scores.

HI-SCORES ADJUSTMENT PLUG:

Located on back box lite insert. This plug provides a wide range of score coverage at which "credits" can be awarded. (See "score adjustment" plug instruction card in back box).

MATCH FEATURE ADJUSTMENT PLUG:

Located on back box lite insert. This plug provides positions to operate game "with" or "without" match number "credit" award.

BALLS PER GAME ADJUSTMENT PLUG:

Located on back cabinet lite insert. This plug provides positions to operate game on "5 ball" or "3 ball" play. In a "3 ball" game, both "O's" operate together.

1ST COIN CHUTE ADJUSTMENT PLUG:

Located on the 2 coin unit, on front cabinet mounting board. This plug provides positions to give "1 play for 1 coin" or "1 play for 2 coins" thru the 1st (nickel) coin chute.

2ND COIN CHUTE ADJUSTMENT PLUG:

Located on front cabinet mounting board. This plug provides positions to give "1 play for 1 coin" or "2 plays or more for 1 coin" thru the 2nd (dime) coin chute.

3RD CHUTE ADJUSTMENT PLUG:

Located on front cabinet mounting board. This plug provides positions to give "2 to 6 plays for 1 coin" thru the 3rd (quarter) coin chute (orange-white plug wire) or thru the 2nd (dime) coin chute (brown-white plug wire).

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Feature Operation and Scoring

Name Feature:

There are seven top lane roll-overs. Six top lane roll-overs lite respective name lites "E-L - T-O-R-O" at lower section of playfield and each score as indicated on playfield. The seventh (top center) top lane roll-over scores 1000 and when lit, awards an extra ball.

To lite the "extra ball" lite and the "special" lite, it is necessary to lite El Toro (in the center of playfield).

The lites are adjustable for "normal" where lites are alternated by the 00-90 unit or "liberal" where lites remain lit. (See "extra ball feature adjustment" plug). Once the name lites are completed, the "extra ball" and "special" lites alternate or remain lit for the duration of the game. (See "special feature adjustment" plug).

Set for 3-ball game, lighting one "O" will also lite the other "O". Either the 1st "O" or the "R" top lane roll-overs will lite the green thumper-bumpers to score 100 instead of 10. The lites remain lit until ball goes into outhole. The yellow thumper-bumper remains lighted for the entire game.

Right Alley Feature:

There are 4 roll-overs, the top 3 roll-overs score 100 or 1000 when lit. Each roll-over is lit by their respective mushroom bumper when hit. When ball goes over the 4th (bottom) roll-over, the above lites are turned off. These lites are also turned off when ball goes into outhole.

Left Alley Feature:

Ball thru left alley scores 1000 and when lit, registers a credit or an extra ball, depending on hi-score special feature adjustment.

Extra ball feature Adjustment Plug:

Located on front cabinet mounting board, this plug has "normal" and "liberal" positions. When "name lites" are all lit, - in "normal" position the "extra ball roll-over" lite is alternated by the 00-90 unit; in "liberal" position the lite remains lighted.

Special feature Adjustment Plug:

Located on front cabinet mounting board, this plug has "normal" and "liberal" positions. When "name lites" are all lit - in "normal" position on the left alley "special" lite is alternated by the 00-90 unit; in "liberal" position the "special" lite remains lighted.

Hi-Score - Special Features adjustment plug:

Located on front cabinet mounting board. This plug provides positions to award credit or extra ball when a predetermined hi-score is registered (See "Hi - scores adjustment plug") and when ball goes thru left alley when special lite is lit.

PARTS LIST

<u>Miscellaneous</u>	<u>Part No.</u>
Transformer	E-122-95
Score Motor (Domestic)	E-119-354
Score Motor (Export)	E-119-411
Trip Relay Reset Motor (Domestic)	E-119-362
Trip Relay Reset Motor (Export)	E-119-385
Meter (Total Play)	E-32-1700
Trip Relay Coils:	
All trip relay coils are	D-28-500

"G" Relays

Coin	G-31-1800
2nd coin chute	G-31-1800
3rd coin chute	G-31-1800
Credit	G-31-1800
Lock	G-33-2800
Reset	G-31-1800
Score reset	G-30-1500
Outhole	G-31-1800
Ball index	G-32-2500
Extra ball	G-32-2500
10 point	G-30-1500
100 point	G-30-1500
1000 point	G-30-1500
#1 M-B	G-30-1500
#2 M-B	G-30-1500
#3 M-B	G-30-1500
#1 R.O. lite	G-32-2500
#2 R.O. lite	G-32-2500
#3 R.O. lite	G-32-2500
Green T-B lite	G-32-2500
Left green T-B	G-31-1800
Right green T-B	G-31-1800
Yellow T-B	G-31-1800

Assembly Coils

Coin lockout coil	FC-33-2600
Knocker	C-27-1000
Bell	CB-31-2000
Left green T-B	A-25-1000
Right green T-B	A-25-1000
Yellow T-B	A-25-1000
Outhole kicker	A-25-1050
Left slingshot	AP-26-1200
Right slingshot	AP-26-1200
Left flipper	AF-26-750/31-900
Right flipper	AF-26-750/31-900

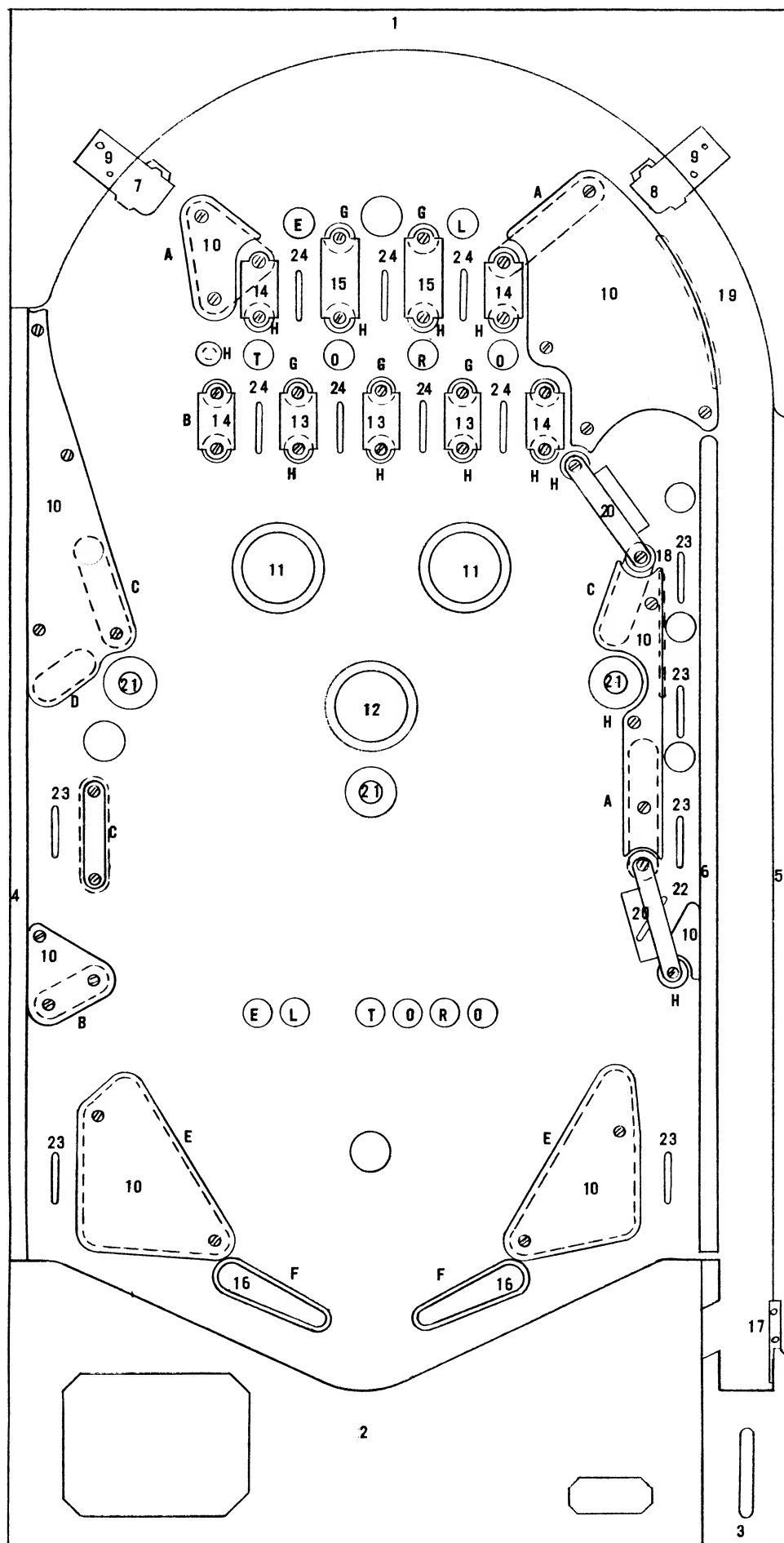
<u>Units Coils</u>	<u>Part No.</u>
2 coin unit (step up)	CD-29-1600
Ball count unit (step up)	B-26-1100
Ball count unit (reset)	C-28-1100
Credit unit (step up)	B-26-1100
Credit unit (reset)	C-28-1100
Score drums (4) (step up)	CD-29-1600
00-90 unit (step up)	B-26-1100

Unit Contact Disc

Ball count	W-1043-15
00-90 unit	W-1034-14

Unit Wiper

Ball count	AS-1046-626
00-90	AS-1046-627



RUBBER PARTS

A	R-521-3	2"	(3)
B	R-521-1	1"	(2)
C	R-521-2	1-1/2"	(3)
D	R-521	3/4"	(1)
E	R-521-5	3"	(2)
F	R-406-3	YELLOW	(2)
G	R-243-2	5/16	(5)
H	R-243	5/16	(14)

PANEL TOP PARTS

1	TOP ARCH	P-5839-62
2	BOTTOM ARCH	P-5871-38
3	SHOOTER GAUGE	P-6359-10
4	SIDE RAIL (L)	CA-1208-2
5	SIDE RAIL (R)	CA-1208-1
6	INSIDE RAIL	CA-1208-14
7	BALL GATE (R)	A-1475-4
8	BALL GATE (L)	A-1475-1
9	BALL GATE COVER	P-2996-5
10	LITE SHIELDS	A-2890-79
11	BUMPER CAP (GREEN)	C-719-13a
12	BUMPER CAP (YELLOW)	C-719-17a
13	GUIDE RAIL	C-693-5 (3)
14	GUIDE RAIL	C-694-5 (4)
15	GUIDE RAIL	C-695-5 (2)
16	FLIPPER (WHITE)	C-611-5
17	PROTECTIVE ANGLE	P-7639
18	BALL GUIDE WIRE	M-121-30
19	BALL GUIDE WIRE	M-121-33
20	BALL GATE & WIRE	AS-2250-24
21	MUSHROOM BUMPER	AS-2291
22	ROLLOVER WIRE	M-1336-2 (1)
23	ROLLOVER WIRE	M-1336-3 (6)
24	ROLLOVER WIRE	M-1336-10 (7)

● INDICATES MOVABLE POSTS
FOR SCORING ADJUSTMENTS

BALLY MFG. CORP.

Jan. 6, 1971

NEW COIL NUMBERS

FO-319a

OLD COIL NUMBER

NEW BALLY COIL NUMBER

CO-25A-7	A-25-1050
CO-25GG-7	B-25-925
CO-25H-7	BC-25-925
CO-26A-9	A-26-1100
CO-26GG-9	B-26-1100
CO-27R-11	C-27-1000
CO-28R-15	C-28-1100
E-184-41	BF-27-1250
E-184-46	EA-30-1150
E-184-47	EA-32-1550
E-184-55	B-29-1200
E-184-56	A-27-1100
E-184-74	CF-28-1025
E-184-75	E-32-1700
E-184-112	EA-29-950
E-184-135	BA-25-925
E-184-155	D-27-425
E-184-156	D-28-500
E-184-160	B-25-750
E-184-175	AP-27-1300
E-184-180	CE-33-4800
E-184-190	AF-25-600/31-1000
E-184-204	AF-27-1000/32-1300
E-184-205	B-27-1300
E-184-206	CD-29-1600
E-184-207	A-27-1400
E-184-213	A-27-1300
E-184-218	F-31-1500
E-184-224	F-31-2100
E-184-231	CA-29-800/31-900
E-184-235	AK-25-1050
E-184-236	J-28-1100
E-184-237	BA-26-1040
E-184-241	AF-25-600/31-1000
E-184-243	A-26-1200
E-184-248	FC-30-1300
E-184-249	BF-28-1500
E-184-250	D-30-700
E-184-252	BB-26-655/32-1245
E-184-254	FC-30-1400
E-184-257	AP-25-1050
E-184-260	B-28-1600
E-184-261	AP-31-3000
E-184-262	A-26-1200
E-184-263	AF-27-775/31-861
E-184-264	A-28-1900
E-184-265	AF-25-600/31-1000
E-184-266	D-29-675
E-184-268	AF-26-750/31-900
E-184-269	FC-33-2600
E-184-270	AB-31-3000
E-184-271	AK-24-750
E-184-272	A-25-1000
E-184-274	FC-32-2100

NOTE:

THESE COILS MAY BE ORDERED BY THE OLD COIL NUMBER OR BY THE NEW COIL NUMBER OR BY BOTH.